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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/668,068	09/25/2000	Mitsuaki Oshima	2000_1309	1797

7590 12/24/2003
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EXAMINER

LE, AMANDA T

ART UNIT PAPER NUMBER

2634

DATE MAILED: 12/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/668,068

Applicant(s)

OSHIMA ET AL.

Examiner

Amanda T Le

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 25. 6) ☐ Other: _____

1. The Request for Continued Examination (RCE) under 37 CFR 1.114 filed on 08/22/03 is acceptable. An action on the RCE follows.
2. The substitute specification filed on 08/22/03 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Farias et al (U.S. 4,891,806) in view of Ooi et al (U.S. 5,007,088).

Farias et al discloses a system comprising the following claimed limitations: "first data stream" (SECONDARY CHANNEL DATA), "second data stream" (MAIN CHANNEL DATA), "trellis encoder" (Fig. 2, element 118, Fig. 8, col. 14, lines 47-52), "modulator" (Fig. 2, element 130), "without being trellis encoded" (col. 10, lines 55-58), "m-level modulated signal,

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n-level modulated signal, n is larger than m" (Fig. 1, elements 4, 5, col. 6, lines 52-58), "first data stream has synchronization data" (Abstract, lines 15-16), "a transmitter" (Fig. 1, element 3), "demodulate the modulated signal to the first data stream" (Fig. 10, 188, 190, 206, 200, 202, 204), "demodulate the modulated signal to a demodulated data stream" (Fig. 10, 188, 190, 191), "trellis decode the demodulated data stream to the second data stream" (Fig. 10, element 193). Farias et al further teach "the demodulated data stream is reproduced according to the synchronization data" (Fig. 10, 206, 208, 190, col. 20, lines 30-35, col. 22, lines 54-57). Synchronization detector 206 controls switch 190 to properly separate the main channel data from the secondary channel data. In other words, the main channel data is in fact "reproduced" according to the synchronization data.

With respect to the claimed limitation of "the signal is VSB-modulated", Farias et al suggest that any conventional signal modulation schemes can be used (col. 10, lines 9-16, 55-68). Since VSB modulation scheme is known in art at the time of the invention, it would have been obvious to one of ordinary skill in the art to implement Farias et al's teachings using known VSB modulation technique when such modulation technique is advantageous for a particular design.

Therefore, Farias et al's disclosure differs from the claimed invention in that the synchronization information data included in the secondary channel are "unique symbols, i.e., having distinctive energy characteristics" (col. 3, lines 54-56, col. 26, lines 25-55, col. 27, line 34), rather than "unique words". Nonetheless, the use of "words being unique or distinctive", rather than symbols, as synchronization data in systems where frame synchronization needs to be achieved is well known in the art at the time of the invention (for example, see Ooi et al,

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Abstract, Fig. 1, element 5). Accordingly, one of ordinary skill in the art at the time of the invention would find it obvious to implement Farias et al's teachings, i.e. transmitting the synchronization information in a secondary channel using a different signal constellation from that of the data information, in a manner such that Farias et al's improved synchronization technique could be used in prior art systems where it is feasible to use "sync word" to establish frame synchronization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Amanda Le** whose telephone number is **(703) 305-4769**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at (703) 305-4714.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


AMANDA T. LE
PRIMARY EXAMINER